

100

102	104
$z = x_1 - x_2 $	$\log_{\text{table}}(z) = \log(1 + e^{-z})$
z_0	a_0
z_1	a_1
z_2	a_2
\vdots	\vdots
z_{N-1}	a_{N-1}

103 105

Figure 1 (Prior Art)

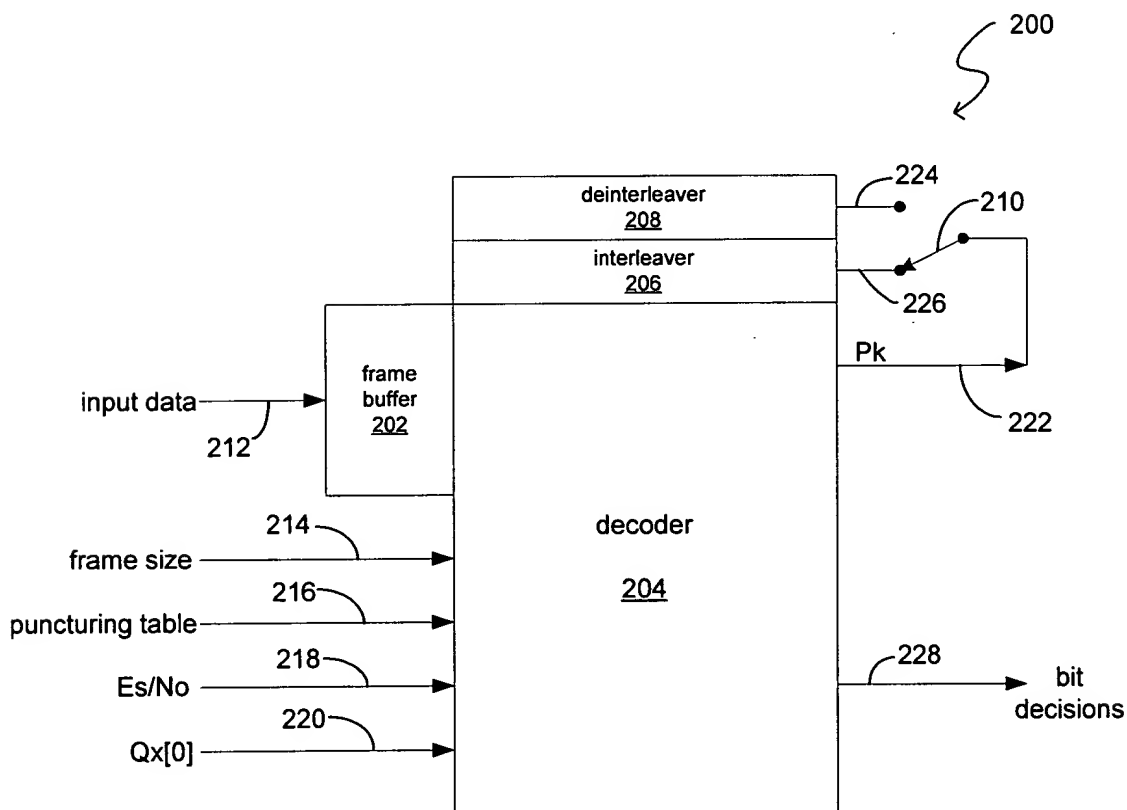


Figure 2

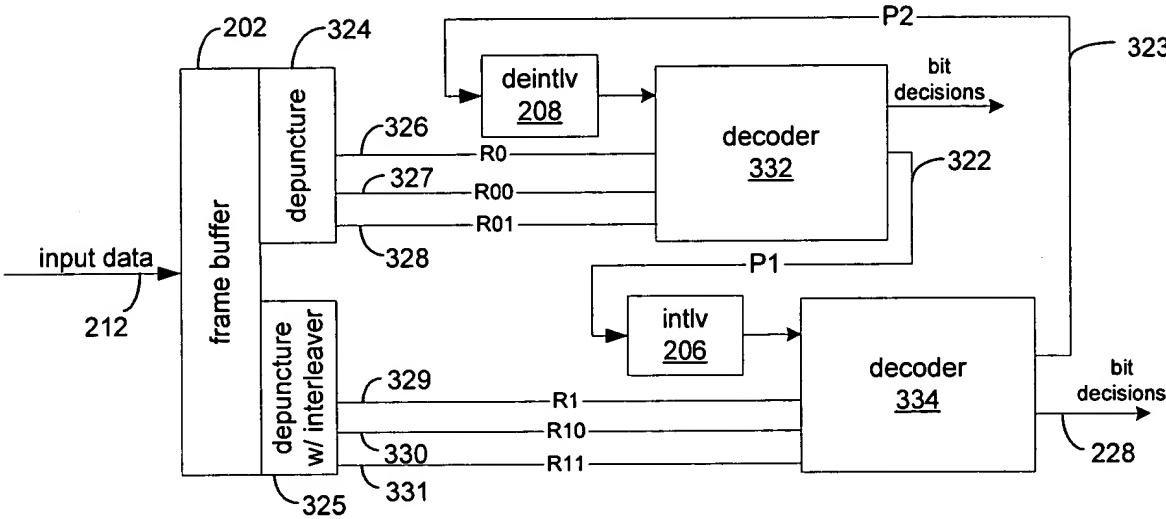


Figure 3

400

402	404
$\tilde{z} = z\sigma^2$	$\log_{s-table}(\tilde{z}) = \log(1 + e^{-z})\sigma^2$
\tilde{z}_0	\tilde{a}_0
\tilde{z}_1	\tilde{a}_1
\tilde{z}_2	\tilde{a}_2
\vdots	\vdots
\tilde{z}_{N-1}	\tilde{a}_{N-1}

406 407

Figure 4

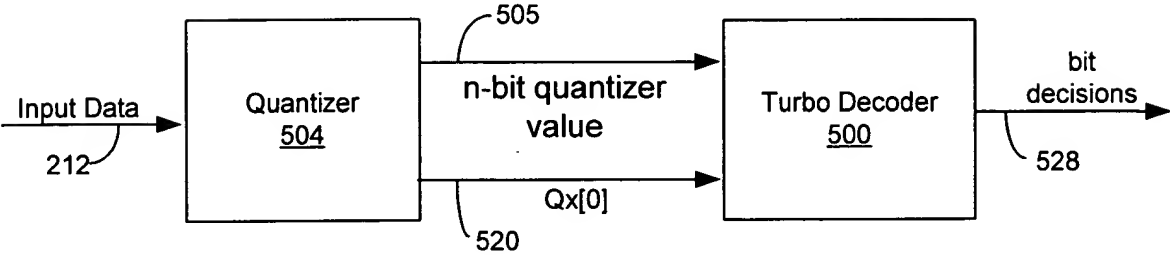


Figure 5

FIG. 20

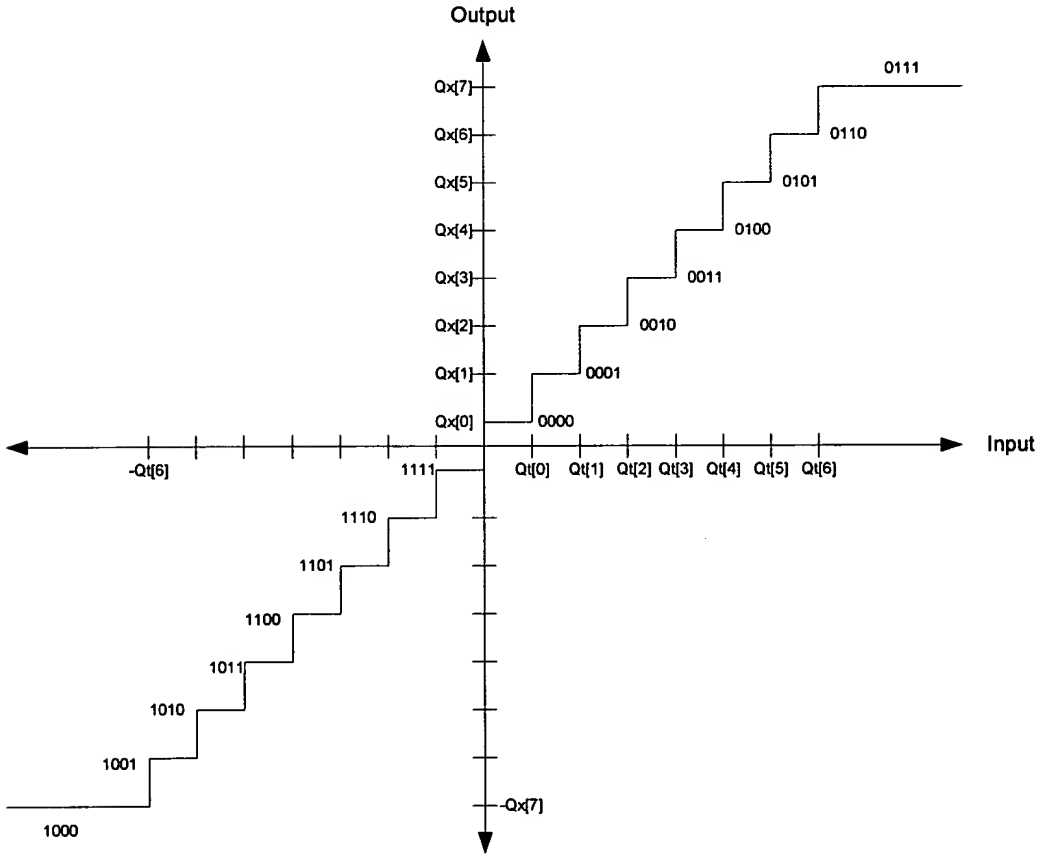


Figure 6

702 $z' = z\rho\sigma^2 / Qx[0]$	704 $\log_{s-table}(z') = \log(1 + e^{-z})\rho\sigma^2 / Qx[0]$
z'_0	a'_0
z'_1	a'_1
z'_2	a'_2
\vdots	\vdots
z'_{N-1}	a'_{N-1}

Figure 7

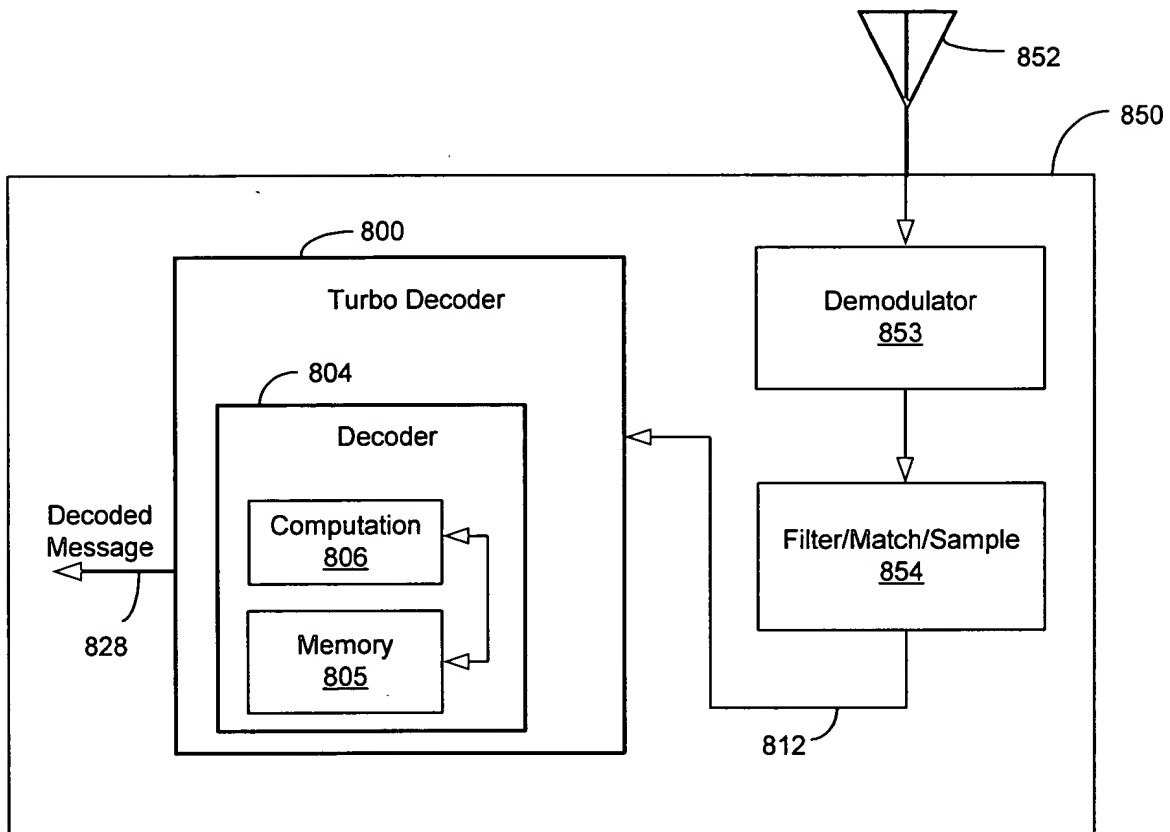


Figure 8

900

902

910

904

\bar{z}	z_{Addr}	$\log_{table}(\bar{z}) = \log(1 + e^{-\bar{z}})$
$\bar{z}_0 = 0$	0	\bar{a}_0
$\bar{z}_1 = 1 \times 2^{\lfloor \log_2(z_1) \rfloor}$	1	\bar{a}_1
$\bar{z}_2 = 2 \times 2^{\lfloor \log_2(z_1) \rfloor}$	2	\bar{a}_2
\vdots	\vdots	\vdots
$\bar{z}_{2N-1} = (2N-1) \times 2^{\lfloor \log_2(z_1) \rfloor}$	$2N-1$	\bar{a}_{2N-1}

Figure 9

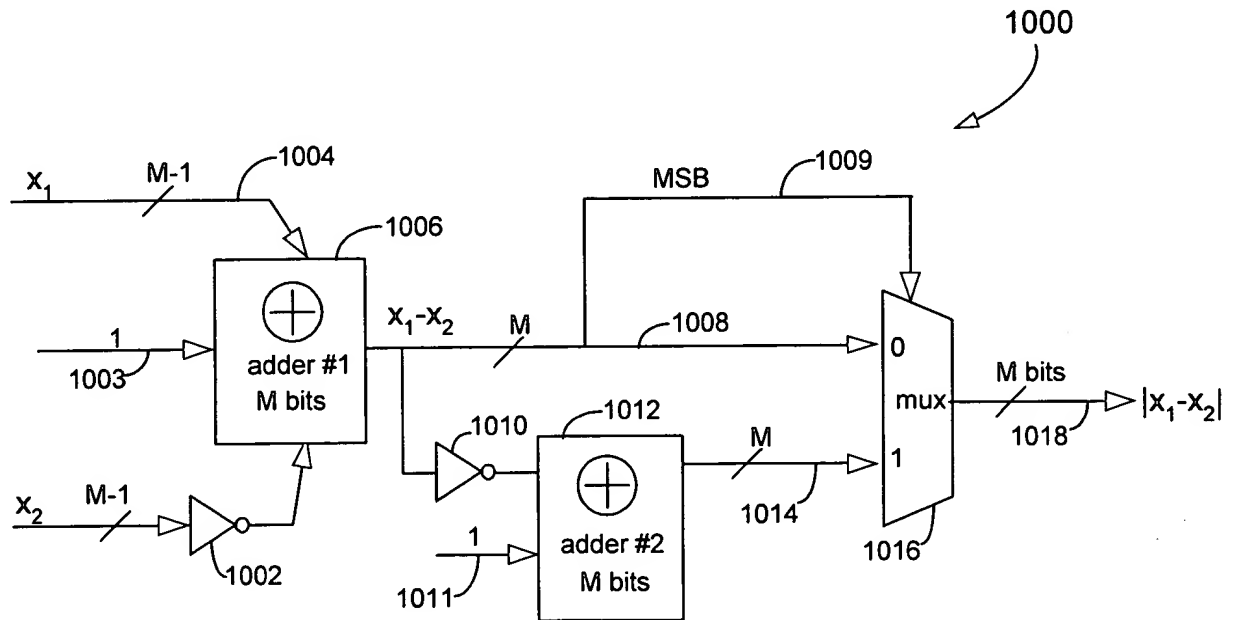


Figure 10

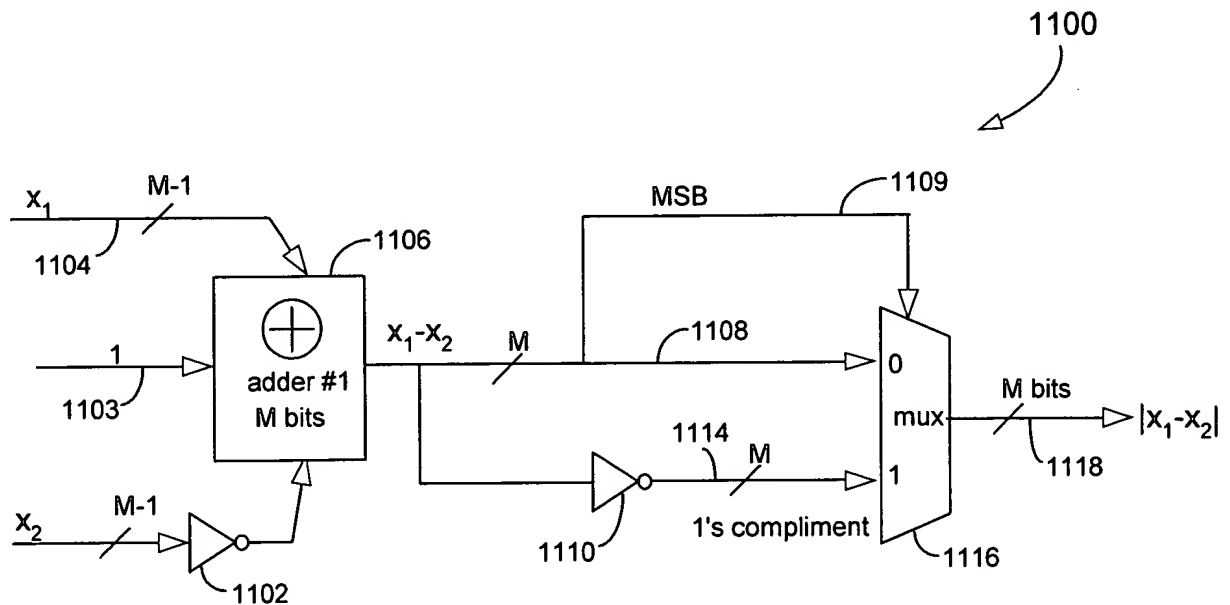


Figure 11

The diagram illustrates a parallel turbo decoder architecture. It begins with an 'input data' block (212) feeding into a 'frame buffer' (202). The frame buffer outputs to two parallel processing paths. The upper path consists of a 'depuncture' block (324) followed by a 'deintlv' block (208). The lower path consists of a 'depuncture w/ interleaver' block (325) followed by an 'intlv' block (206). Both paths then feed into their respective 'decoder' blocks (332 and 334). The decoders output 'bit decisions' (323) and 'P1' (322) signals. The 'P1' signal from the lower decoder (334) is fed back into the 'deintlv' block (208) of the upper path. The 'bit decisions' (323) from both decoders are fed into a 'buffer' and 'comparator' block (1250). The 'comparator' also receives a 'P2' signal from the upper decoder (332) and a '228' signal from the lower decoder (334). The 'comparator' outputs '1254' and '1252' signals, which are fed into a 'deinterleaver' block. The 'deinterleaver' outputs '1255' and '1256' signals, which are fed back into the 'depuncture w/ interleaver' block (325) of the lower path. The 'deinterleaver' also receives a '228' signal from the lower decoder (334).